a solitary poorly preserved male example, and six years later the same author instituted the genus *Polymicrodon* for that species. In 1911 I submitted numerous examples of *P. latzeli* to Verhoeff from the north of England, who (1912) wrote at some length upon this material. Nowhere have I seen any attempt to show how *latzeli* differs from Leach's species *polydesmoides*, described somewhat over a hundred years ago (and figured) from South Devon, of which Samouelle says "inhabits Devonshire under stones. It is common all along the borders of Dartmoor and on the southern coast. It was once taken by Dr. Leach in the garden of the British Museum."

I have twice stated that there appeared to be two allied species, referring the commoner to *latzeli* and the rarer to *polydesmoides*; but in recent years I have made a closer study of the Diplopoda, and I am convinced that the so-regarded rarer species is in reality the later larval stages of *latzeli*.

Verhoeff states (1912, p. 165) that the occurrence of *P. latzeli* in the north of England is very noteworthy from the zoogeographical point of view "since this is the first time that a Craspedosomid of '*Atractosoma*-habit' has been recorded from the northern region affected by the Ice Age. This is by far the most northerly record for any such Craspedosomid." As a matter of fact, the species is not uncommon in Scotland and is one of the commonest Diplopods in the northern counties of England; it is probably as common in the midlands and the south, where I have collected it in North and South Devon, Bath, Oxford, Swanage, Portsmouth, Isle of Wight, and in the London district.

I see no grounds whatever for the retention of the name *latzeli*, which I consider must fall as a synonym of *polydesmoides*.

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## XXXVIII.—*New Lepidoptera in the Joicey Collection.*

By Louis B. Prout, F.E.S.

### Family Zygænidæ.

1. *Caprima chrysosoma.*

♀.—31 mm.

Head and body orange-ochreous; antennal shaft blackish, with blue irroration (tips lost); tarsi blue-blackish on upper side; tibial spurs almost entirely atrophied.

*Fore wing* long and narrow, more recalling *Aphantocephala*, or even *Docleopsis*, than *Caprima*; $SC^3$ wanting, $R^1$ just stalked, DC acutely inangled; black, irrorated with blue; a small ochre-yellow patch at base, produced on the space between costal edge and vein C to a length of nearly 2 mm.; a narrow ochre-yellow streak from SC at 4 or 5 mm. from base, running very obliquely in direction of termen but not quite reaching $SM^2$.

*Hind wing* black with blue irroration; abdominal margin ochre-yellow for a width of over 1 mm. At termen appearing to widen on account of some yellow irroration.

*Underside* similar, but in part with stronger blue and purple reflections, the yellow markings somewhat extended, the fore wing with some additional yellow scales in and distally to the posterior angle of the cell and at distal end of abdominal margin.

Aru Is., March–May 1916 (*W. J. C. Frost*).

## Family Geometridæ.

### Subfam. *Sterrhinæ*.

2. *Semæopus subtranslucens*.

♀.—33 mm.

Head and body nearly concolorous with wings; antennal joints not projecting; ciliation fully as long as diameter of shaft; pectus not densely hairy.

*Fore wing* with apex acute, termen rather irregularly subcrenulate; proximal areole ample, distal minute, $SC^2$ arising well down on the stalk of $SC^{3-5}$; subdiaphanous whitish, with slight pink reflections and with some somewhat olivaceous * irroration; costal margin and base olivaceous *; markings olivaceous *, antemedian line before one-third, excurved in cell and in submedian area; cell-mark ocelloid; median line dentate, from five-eighths costa, oblique outwards to $SC^5$, somewhat incurved between the radials and strongly behind middle, reaching hind margin about middle; a duplicating line just beyond the median commences about $R^1$, feeble at first but becoming distinct and thickening, almost connected with median by olivaceous shading in posterior part; postmedian line dentate, placed midway between this and termen or slightly nearer the

* "Buff with a tinge of olive" would perhaps better describe this shade.

latter, very oblique outwards between $SC^4$ and $SC^5$, where it is acutely angulated, incurved and thickened into two spots between the radials and again (though less strongly) behind $M^2$; terminal line olivaceous, accompanied by triangular interneural dots (pointing proximad).

*Hind wing* with termen irregular, dentate, the teeth at $R^1$ and $R^3$ longest and sharpest; $R^2$ very shortly stalked, $M^1$ arising rather nearer $R^3$; irroration in proximal half in part fuscous; first line wanting; cell-spot round, black, without pale centre; the other markings corresponding to those of fore wing.

*Underside* paler; fore wing with costal margin somewhat olivaceous; both wings with cell-spot ocelloid, median and postmedian and terminal markings nearly as above.

Sierra del Libane, Colombia, 6000 feet (*H. H. Smith*).

Rather recalls *S. trygodata*, Warr. (Nov. Zool. xi. 36), but distinguishable by the relatively long antennal ciliation and longer teeth of termen of hind wing, as well as by the venation. These two species together with "*Trygodes*" *pertumna*, Schaus, so far bridge over the supposed gap between *Semæopus* and *Trygodes* that I doubt whether the latter can be regarded as more than a section.

### 3. *Anisodes* (*Brachycola*) *clandestina*.

♂.—32 mm.

Structure of antenna, palpus, legs, areole, etc., approximately as in *absconditaria*; palpus with second joint beneath perhaps clearer whitish and more appressed-sealed; abdominal cavity enormously developed, the sternal tuft less developed. Smaller, wings shorter, irroration fairly strong, purple-reddish (in *absconditaria* extremely weak, browner), underside more strongly marked, including some rather noticeable pink irroration at middle of costa of hind wing.

Khasis, type in coll. Joicey; 1 ♂ in coll. L. B. Prout (genitalia examined by Rev. C. R. N. Burrows). Pundaloya, Ceylon (coll. Tring Mus.). Penang and Gunong Ijau (coll. Tring Mus.)—ocelloid form of central spot persisting (in type giving place to punctiform).—Larut Hill, Perak, 4360 ft., 21st April, 1898 (*S. S. Flower*), 1 ♀; Singapore (*H. N. Ridley*), a good series; Sarawak, 1 ♂ ♀ (*Wallace*) (coll. Brit. Mus.).

This is essentially the *obrinaria* of Hampson's 'Fauna of British India, Moths,' iii. p. 446, although, on account of

shortage of material and preponderance of ♀ ♀ in the British Museum collection at that time, he mixed in some very heterogenous elements. *A. obrinaria*, Gn.=*caligata*, Walk.=*similaria*, Walk., and *A. pallida* (bon. sp.?) belong to the typical section *Anisodes* and have no areole. *A. obliviaria*, Walk.=*suspicaria*, Snell., to the section *Perixera*, Meyr. (nec Hamps.), also with no areole, but with hind femur tufted.

I should have considered this a local form—more rufescent—of *niveopuncta*, Warr. (Nov. Zool. iv. p. 48), but the genitalia show that it has reached full specific rank. In *niveopuncta* the uncus is more long and slender, the valves very different, the penis has a very distinct cornutus (or perhaps bunch of cornuti), and there is a better developed pair of hair-brushes on the 4th (?) abdominal segment.

4. *Flavinia allogaster*.

♂.—30 mm.

Closely similar to *circumdata*, Maassen (Stübel's Reisen, Lep. pp. 101, 130, t. iv. f. 22). Abdomen with a pale dorsal line as in *alcidamea*, Druce (Proc. Zool. Soc. Lond. 1890, p. 498).

*Fore wing* with the apical black border broadened, its proximal edge on the upper surface at $R^1$ being over 4 mm. from the apex, at $R^2$ fully 3 mm. from termen, on the under surface very slightly less broad; black on hind margin slightly broadened.

*Hind wing* with the black distal border above less narrowed between $R^1$ and $M^1$.

Peru, without more exact locality. Type in coll. Joicey (ex Schaus); three in coll. Brit. Mus. from the same source, mixed with true *circumdata*.

Family **Drepanidæ**.

5. *Cyclidia substigmaria*, Hbn.

It has been unaccountably overlooked that this species was described and figured by Hübner ('Zuträge,' iii. 29, figs. 519–520) from "China," *i. e.* no doubt S. China, and represents unmistakably the form later described by Walker (List Lep. Ins. xxiv. 1121) from Hong Kong as "*Abraxas*" *capitata*, though the last-named author neglects to describe the underside. The common Indian race, which has for so long passed as *substigmaria* (see, for instance, Hampson's 'Fauna

of British India, Moths,' vol. i. pp. 327, 328, fig. 225, Strand in Seitz 'Macrolepidoptera,' vol. ii. p. 196, pl. 23*f*), therefore remains without a name and I propose to call it *Cyclidia substigmaria superstigmaria*, subsp. nov. Ground-colour whitish, markings fawn-brownish, always more or less shadowy, subtornal spots at inner margin of fore wing well defined, *cell-spot of hind wing above black*.

Dharmsala, Kulu, Sikkim, Burma, etc.; type ♂ (Darjeeling, ex coll. Lidderdale) in coll. Joicey.

From Vrianatong, Tibet, comes a greyer, more suffused race, with the cell-spot of the hind wing above generally less deep black than in the form *superstigmaria*, the subtornal brown markings of fore wing not, or scarcely, more strongly developed than the posterior end of the line which precedes them proximally. I name this *substigmaria intermedia*, subsp. nov. Type in coll. Joicey.

Typical *substigmaria* from China and Formosa (also, in Tring Museum, from Tonkin) is very similar to subsp. *intermedia*, but less dark grey, the cell-spot of the hind wing above still weaker, the subterminal dots generally connected by stronger grey shading, the subtornal markings of the fore wing frequently confluent with the preceding line so as to form a brownish pyramid, the cell-spots generally less intensely black.

The Japanese representative, *nigralbata*, Warr. (Nov. Zool. xxi. p. 401), may possibly be a separate species, though most collections have mixed it with "*capitata*" (i. e., *substigmaria substigmaria*), not even recognising the marked distinctions as racial.

## Family Arctiidæ.

### Subfam. *Lithosianæ*.

### 6. *Caprimima esthla*.

♂ ♀.—31–32 mm.

Similar to *C. calida*, Walk., but larger. The yellow on patagia and tegulæ more extended.

*Fore wing* with the yellow area broad, the black at base rather broad, especially in the ♀, where it curves outwards along costal margin, the black costal margin in middle very narrow in ♀, wanting in ♂.

*Hind wing* rather more produced in tornal region than in *calida*, the black along abdominal margin broad, at apex moderately broad, at distal margin between $M^1$ and tornus, on the other hand, quite narrow (recalling *isabellæ*, Rothsch.);

apical area wanting the "cupreous-red" cloud which in *calida* is always present beneath and generally also above.

Goodenough I., 2500–4000 ft., Apr. 1913 (*A. S. Meek*). Type ♂, 2 ♀ ♀ in coll. Joicey. Also in Tring Museum.

Possibly a local form of *calida*, though very different from Hampson's "ab. 1."

Subfam. *Arctiinæ*.

7. *Heliactinidia tornensis*.

♂.—30 mm.

Similar to *chiguinda*, Druce.

*Fore wing* slightly more rounded, rather blacker brown; streak behind cell longer, crossing base of $M^2$; outer band broader, not indented at posterior extremity of cell.

*Hind wing* without the black costal area; the streaks on submedian fold and in abdominal area wanting.

Torné, Cauca Valley, Colombia, August 1907. Type in coll. Joicey.

Family Hypsidæ.

8. *Phægorista bisignibasis*.

♀.—58 mm.

Head and thorax above black; face marked with white at lower extremity, occiput and front of thorax narrowly marked with white; breast and palpus beneath (to near end of second joint) orange; abdomen orange with narrow black anterior rings; legs orange marked with black, tarsi mostly black; antennal joints not projecting.

*Fore wing* light reddish orange, along costal and hind margins narrowly and irregularly black; a small black patch at base, with its outer edge convex and containing a pure white basal spot, close to costa; apical region black, its boundary rather straight from proximal end of areole in direction of tornus but narrowly interrupted at submedian fold, followed by a black subtornal and a small whitish tornal spot between $SC^1$ and $M^2$ placed in the apical patch near its proximal edge, slightly broader than in *agaristoides*, Bdv., but proximally indented in the middle; fringe spotted and tipped with white.

*Hind wing* scarcely more reddish; a black distal border about as in *agaristoides*.

*Underside* similar, fore wing without white tornal spot.

Tanga, German E. Africa, February. Type in coll. Joicey.

9. *Phægorista trialbata.*

♂.—85 mm.

Akin to *agaristoides*, differing as follows:—Palpus with third joint shorter; second joint beneath narrowly marked with white (in *agaristoides* less narrowly with orange).

*Fore wing* above with the oblique streak behind cell larger and narrower, pinkish white; a small long-oval pinkish-white spot in front of it, beyond middle of cell; subapical patch white, as in some *agaristoides*, but considerably broader and somewhat longer, reaching vein $M^2$, its distal edge irregularly curved; no supplementary spot on submedian fold; fringe not white at apex.

*Hind wing* with the border narrower than in *agaristoides*; orange ground-colour less reddish than in most *agaristoides*. Fore wing beneath orange as far as the black apical area, only with the costal margin narrowly black.

Uganda (*E. S. Gledhill*). Type in coll. Joicey.

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## XXXIX.—*Descriptions and Records of Bees.*—LXXXI.

By T. D. A. Cockerell, University of Colorado.

*Augochlora* (*Odontochlora*) *lyoni*, sp. n.

♀.—Length about 8·5 mm., anterior wing 6.

Robust, black, with strong metallic tints as follows: clypeus (which is smooth, with well-separated large punctures) green in middle and purplish at sides; cheeks blue-green next to orbits, otherwise purplish; region on each side of antennæ obscurely purplish; vertex greenish; tubercles bright green; mesothorax with disc obscurely green, margins purple; scutellum greenish; postscutellum and area of metathorax purple; mesopleura dark purple edged with blue; first abdominal segment suffused sublaterally with bright green and purple; second with similar colours, but less distinct, the remaining segments black. Flagellum ferruginous beneath; front dull and granular; ocelli not enlarged; process of labrum broadly truncate, slightly bigibbous; mesothorax densely punctured, except the posterior middle, where the punctures are sparse on a shining ground; area of metathorax with numerous very fine more or less wrinkled striæ; posterior face with no